

Using GarageBand to Motivate Students to Practice

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Abstract: Beginning instrumentalists are often unmotivated to practice. The researcher conducted an action research project to determine if GarageBand, a music recording software, could be used to motivate eighth grade music students to increase the amount and quality of their independent practice sessions. Students completed three 25-minute practice sessions and at random intervals self-recorded if they were on-task. Students then recorded themselves using GarageBand, and their performance was scored against a rubric. The study produced mixed results although student response at the end of the project revealed that a majority of the students had a favorable attitude toward practicing and recording using the software.

Introduction

The lack of student motivation and engagement in learning is becoming an increasing challenge for music educators who, according to one study, view student apathy and lack of motivation more problematic and stressful than discipline problems (Gordon, 2002). Some music students growing up in this “iPod generation” now foster a belief that the traditional fundamentals of music education such as notation, arranging, and composition are no longer necessary because of new technologies that make it easy to instantly create and manipulate music digitally (Feldstein, 2001; Ulrich, 2008). Beginning instrumentalists who hold such ideas of music-making often seem to lack the motivation to practice, leading to frequent classroom disruptions and behavioral issues. Although technology seems to contribute to this problem, perhaps it also holds the key to a potential solution. Can computerized music creation and editing software be used to motivate students to practice and create their own music?

The purpose of this action research project was to evaluate the feasibility of using Apple’s GarageBand software as a tool for motivating eighth grade music students at Leeward Middle School to increase the amount and quality of their independent practice sessions. GarageBand is a recording and music-editing software that allows users to create, edit, and manipulate recorded sounds to create music without having to fully master an instrument (Hopkins, n.d.).

Background

Expert or experienced musicians are able to regulate the intensity and speed of their cognitive activities in order to assure success (Nielsen, 1999, 2001). But for younger or developing musicians, self-regulation is an important skill that is learned over time. Students who can display self-regulatory characteristics earlier in their development as musicians are more likely to practice efficiently, have a higher self-concept, and achieve at a higher level (Austin & Berg, 2006; A. Hewitt, 2005; McPherson & Renwick, 2001; Miksza, 2006). Practice strategies should be systematically taught by modeling, and the student should be given responsibility for identifying errors and for problem solving (Byo, 2004; Peterson, 2001; Pitts & Davidson, 2000).

By involving students in making musical decisions through self-assessment, discovery learning, and authentic tasks, they become motivated and feel as though they have ownership of their development as a musician (Leonhardt, 2005). For example, teaching students to self-monitor their practice sessions gives them a sense of responsibility for their progress. Self-monitoring requires students to think critically by setting goals and to assess and reflect on their progress (William, 1998). In addition, educators should initially use extrinsic motivators to lead students to successful experiences that will eventually allow them to develop intrinsic motivation (Fant, 1995).

Technology such as GarageBand may serve as an extrinsic motivator for students. Digital recording technology is particularly attractive in an educational setting because it allows teachers to expose students to real world skills such as recording, composing, audio editing, and music production (Criswell, 2008). In particular, the recording process is student-centered and collaborative, which can help students problem solve, view their practice sessions more analytically, and take greater ownership of their progress (Sariti, 2004). Students can also develop advanced listening skills by listening to recordings of their performance and assessing them for quality (Clukey, 2006; Pedrick, 1998). Recording may also motivate students to refine their musicianship because students become engaged in this authentic task and realize the seriousness of committing their performance onto a permanent recording (Johnson, 1997).

Methodology

The target population for this action research study was eighth grade instrumental music students enrolled in Exploratory Ukulele at Leeward Middle School. Most of the students entered the course with little to no experience in playing the ukulele. This was a semester elective course that met three times a week – one 40-minute period and two 85-minute blocks. The students ranged from ages 14 to 15 and there were approximately an even number of boys and girls in each class. The data from 31 students were considered viable for use in the study because they submitted the proper consent forms and completed all of the practice sessions and written reflections. The facilities that were used for this study included a large music classroom along with an adjoined practice room, equipped with an iMac computer.

The school services students from a variety of backgrounds—including military families and those living in nearby affordable housing. The time commitment and fees associated with learning an instrument, as well as the transient nature of the student population, makes it hard to retain students who are dedicated to practicing and learning a musical instrument. Many students enroll in music classes believing that it will not be academically challenging, and that it will provide an easy means of earning the elective credits needed for promotion to the high school.

The action researcher for this study is a full-time certified teacher at this school. Before the intervention was implemented, parents and students were given written permission forms in order to obtain informed consent. Human subjects approval was also acquired through the University of Hawaii's Institutional Review Board. All students in the classes completed the unit as a part of regular instruction, but only the data of those with permission were included in the study.

Traditionally, the curriculum was organized into units that were broken up by musical keys. The teacher would give whole class instruction before breaking the students up into smaller groups to practice independently. This instructional strategy was designed to give students with low self-concepts in music an opportunity to experience musical growth by participating in small ensembles, where there was more responsibility for making musical decisions (Mallonee, 1999). Despite this, many students were easily distracted and their practice sessions would be inefficient and ineffective in improving their performance.

The intervention at the center of this research project extended one of these units by requiring students to record their performance using GarageBand. The researcher examined whether or not students found the recording process motivating enough for them to improve their practice behaviors. Data collection involved student self-reports, teacher observations, scores for recorded performances, post-practice written reflections, and a class discussion by the students.

At the beginning of the unit, students were given whole class instruction on the chords, scales, and songs in the key that they were learning. They were also taught various practice strategies including breaking up the song into parts, practicing one hand at a time, slowing down the tempo before speeding up, and repeating sections or drilling them until they were more fluent. These strategies and skills were modeled as a part of whole class instruction before students were asked to utilize them in their own independent practice sessions.

Students completed three, 25-minute practice sessions. Prior to breaking up into small groups to do independent practice, students discussed criteria for on-task behavior. For the purposes of this study, to be considered on-task students needed to be practicing skills using the strategies discussed in class. Before beginning, students were instructed to write down a practice goal. During each practice session they were asked to self-monitor their practicing by simply circling “on-task” or “off-task” on the self-recording form when instructed by the teacher at random intervals or snapshots.

As they practiced, the teacher observed students from a distance and checked the validity of their self-reporting. Students were not allowed to ask the teacher for help but they were allowed to use their notes and peers as resources. At the end of the session, they were asked to write a reflection about their behavior and any strategies they used to achieve their goals.

Once all practice sessions were complete, students used GarageBand to record a master track of their entire group performing. Then the students individually recorded themselves—each on separate tracks—as they played along with the master track, which served as a model of ideal performance. The GarageBand file was evaluated based on a rubric that rated how well students were able to demonstrate mastery of musical skills consistent with the expectations of the Hawaii Content and Performance Standards (Hawaii State Department of Education, 2005; Nutter, 1999). As suggested by Leonhardt (2005) the rubric was made available for the students to refer to frequently, to help guide their musical practice by helping them focus their sessions on developing the skills that would be assessed. Students were rated on a scale of one to four—with one being “not proficient” and four being “exceeds expectations.” The performance criteria included mastery of pitch, rhythm, beat, intonation, and tone quality. Descriptors that classified each rating were provided on the rubric.

After listening to their recording and reviewing their scores, students completed one last written reflection and participated in a class discussion where they shared their attitudes toward practicing and recording using GarageBand.

Results

Rubric-based performance scores for the 31 students ranged from a low of 7 to a high of 20 (Figure 1). Since most students enrolled in the course with little to no previous formal instruction in music, and because direct instruction stopped after the first week of the unit, it suggests that students who scored higher had practice sessions that were more effective in improving their performance and in preparing them to be recorded.

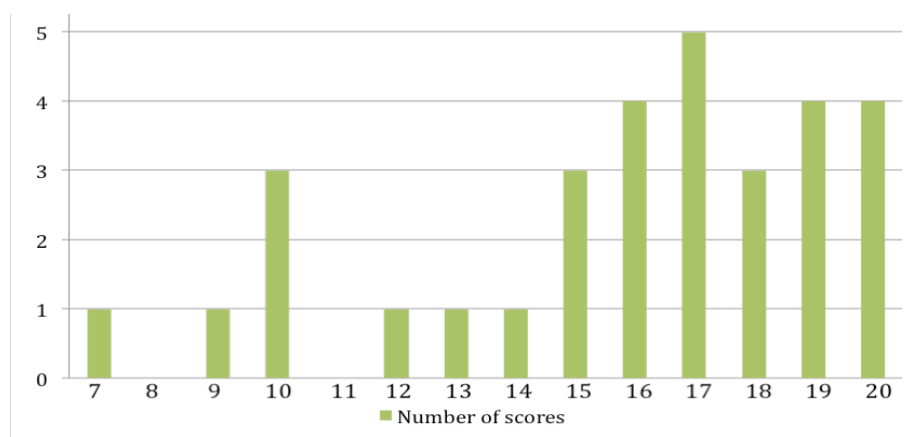


Figure 1. Performance scores (based on rubric)

Student self-reports of off-task behaviors, collected at 15 random snapshots, were compared with his or her performance score. The number of off-task reports ranged from zero to ten, averaging 4.23 incidences per student. One might assume that the higher performing students would report less off-task moments. However, there was only a weak negative correlation ($r = -0.18$) between the number of self-reported distractions and performance scores. This supports research conducted by Schmidt (2005), showing that assessments of student effort, or how much students are engaged in practicing, accurately reflects student levels of intrinsic motivation but is not necessarily a good predictor of performance achievement.

Next, the researcher compared the number of errors that students made in self-reporting their practice behaviors with their performance scores, and came up with an average of 3.10 errors per student. Errors were defined as when a student reported being on-task, but their behavior was considered off-task based on the teacher's observations. Errors where students reported being off-task, yet were actually on-task were rare, but were also counted. A weak negative correlation ($r = -0.28$) was found between the number of self-reporting errors and student performance scores.

Responses from the written reflections were counted and categorized. Figure 2 shows the types of strategies that students reported using in their practice sessions. Students with multiple strategy use were counted once for each category, however, despite the frequency of the strategy use, each strategy was counted only once per student for all three practice sessions. Students reported using a variety of practice strategies but the instances and duration of strategy used differed greatly when compared to teacher observation notes. Even though students could correctly identify strategies that were appropriate to use, at times they did not actually use them or apply them consistently, supporting Hallam's (2001) findings.

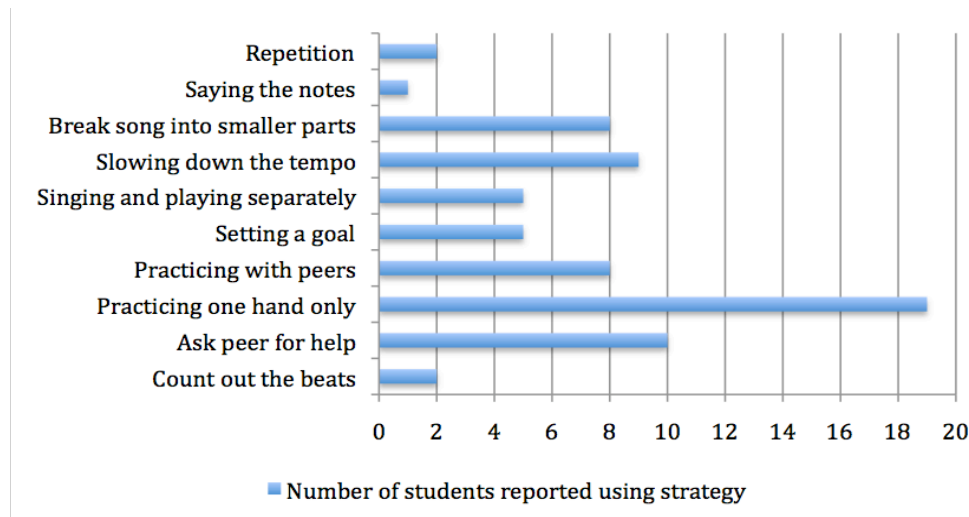


Figure 2. Strategy use reported by students.

Figure 3 shows the types of distractions students encountered in their practice sessions. Unlike the self-reported data for strategy use, the distractions reported by students more closely matched the observations of the teacher.

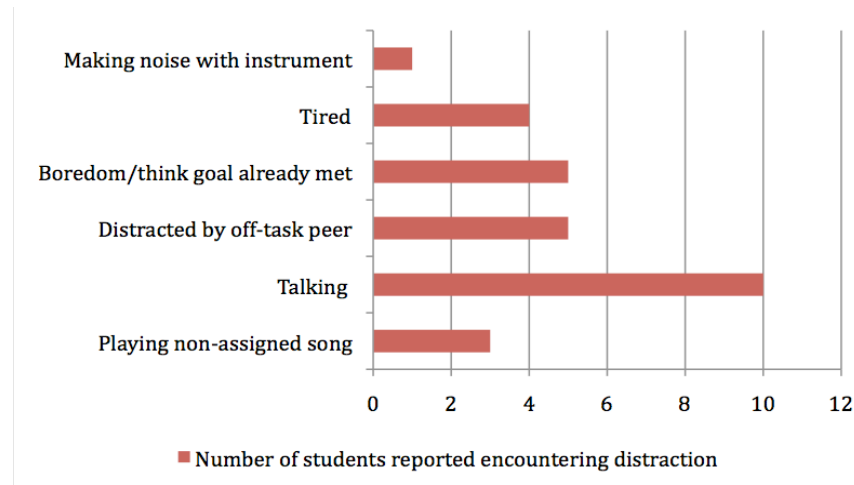


Figure 3. Distractions reported by students.

Other data from the written responses showed that 24 out of the 31 students set specific practice goals. When students were asked if they would have practiced more or less if they were not going to be recorded, 22 students responded that they would have practiced less; four students said they would have practiced the same; and five students said that they would have practiced more. The students who believed that recording their work made them practice more wrote that they found it motivating because of the pressure of having others possibly listen to their recording and because of their own desire to produce work that was of high quality.

After listening to their recording and reviewing their performance scores, 17 students felt that their practice sessions adequately prepared them to record while 14 students felt that they were unprepared. The students who felt that they were adequately prepared scored higher, on average, than those who said that they felt unprepared—suggesting possibly that listening to the recording helped them to more accurately self-reflect on their work ethic. Finally, when asked what they would do differently if they were to be recorded again, most of the students listed specific practice strategies that they would utilize to a higher degree, such as breaking the song into parts, playing each section slowly, and practicing specific musical skills. Even students who scored high on the recordings suggested strategic ways of improving their efficiency and effectiveness in practicing.

From the classroom discussion, all but one of the students agreed that independent practice was helpful in preparing to record. The most often cited reason for this was that it helped them to fix their mistakes and to play better. A majority of the students also reported enjoying practicing more because they knew that they were going to be recorded. Most of them explained that recording made the process fun and that they were more motivated to get better because there was a purpose for practicing. Only two

students replied they did not enjoy practicing more because knowing that they were going to record made them nervous.

As for student attitudes toward the GarageBand software, students liked using it because they enjoyed being able to hear themselves and could correct their mistakes for future performances. Several also enjoyed using the technology to isolate and combine sounds. Some things that students did not enjoy when using GarageBand was the tediousness of the preparation and the nuances of recording a live performance (i.e. ensuring that no extraneous noises were recorded along with the performance). Other students said that recording made them nervous and that they had difficulty in following the master track. The remaining students said that there was nothing that they did not like about using the software program.

Discussion

For the purposes of this study, the researcher assumed that less self-reported distractions would mean that students were more motivated to practice. However, data indicated that the more motivated students—those with fewer distractions—did not necessarily perform better than the less motivated students, or those with more distractions. In other words, there was no clear relationship that emerged between student motivation and the overall quality of their practice sessions. One possible reason for this is that perhaps some of the off-task students did not realize that they were distracted and incorrectly marked their data sheet. This would have resulted in fewer reported distractions, causing any relationship between the two variables to be skewed.

The number of errors in student self-reported distractions, however, was a slightly better indicator of student performance achievement. The weak, negative correlation suggests that students who were more accurately able to self-monitor their practice sessions performed better on their recording. This supports the research done by Morrison, Montemayor, and Wiltshire (2004) that proposes that the ability to self-assess may assist students in developing an “internalized musical ideal,” and that it might also influence the musical elements that students decide to address in their practice sessions (p. 117). In addition, perhaps students that have better self-regulatory and metacognitive skills are better able to manage their time wisely, leading to more efficient practice sessions.

One unexpected result from the data was that several students stated that they were distracted or stopped practicing because they felt that they knew the song well enough and decided that they did not need to prepare any more. When analyzing these student scores, only one had a score of 19 and the rest scored between 15-17, suggesting that they were not actually prepared and that they probably should have practiced more. More research is necessary to determine what caused this misperception in self-monitoring for these students.

Other data demonstrated that most of the students believed that recording using GarageBand was motivating. For a few of the students the motivation was extrinsic or fear-based, but for others it was more intrinsically rewarding because they were able to participate in an activity that was purposeful and had meaningful to them.

Student attitudes toward GarageBand were mostly positive. Generally, students enjoyed using the technology and felt that it pushed them to practice more than they would have practiced if they were not going to be recorded. There were not too many low performance scores indicating that most of these entry-level students were able to successfully develop musical skills through their practice sessions, probably faster than they would have without strategic practice. Another benefit of recording was that the students were able to listen to their work, allowing them to more accurately reflect on their performance and to plan for how they would improve the next time around.

The data analysis produced mixed conclusions. The numerical data provided only a weak relationship between GarageBand's ability to motivate students to practice and to improve the quality of their practice. Yet despite its questionable effectiveness as an intervention, most students reported favorable attitudes toward the recording process and reported having positive experiences using GarageBand. Although further research is necessary to conclusively prove that GarageBand is a viable means of motivating most students to practice independently, it should not deter educators from implementing recording technology into their curriculum. Regardless of its ability to improve the effectiveness and efficiency of independent practice sessions, recording student performance can help students develop valuable listening and self-monitoring skills. For the students who are uncomfortable with using software to record themselves, steps should be taken to normalize the recording experience so that they do not feel so nervous.

In this research project, the percentage of time on-task might have given a better picture of certain trends and phenomena instead of the practice snapshots. However, calculating the percentage of time on-task probably would have required the students to practice completely independent of one another and in separate rooms so that the researcher could either videotape them or observe them one at a time. Unfortunately, due to time constraints and resources, the researcher was unable to use this method. Future research might include this type of data collection so that more quantitative data may be derived to support the findings.

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